Appendix BB Perris Dam Reconnaissance Study







PERRIS DAM RECONNAISSANCE STUDY

Prepared for

State of California

Department of Water Resources

State Water Project Operations Support Office

Prepared by



June 30, 2006

June 30, 2006

Mr. Rich Sanchez, P.E., Manager Chief, State Water Project Operations Support Office 1416 9th Street, Room 605-2 Sacramento, CA 94236-0001

Subject: Perris Dam Reconnaissance Report

Dear Rich:

We are submitting herewith the Final Report for the subject task. This was undertaken under Task Orders WIS-17 and 20 of our Standard Agreement No. 4600002231.

The report presents the results of the qualitative analysis of the impacts of the selected reservoir options upon a full range of issues that would be affected. The study was done with extensive input from specialists from the DWR, MWD and other stakeholder agencies. The conclusion reached is that the most highly rated option is remediation of the as-designed dam, followed by enlargement of the dam and reservoir to provide a normal operating level of 1640 ft.

We have enjoyed working with you, your staff and others in DWR and appreciate the cooperation provided throughout the assignment. We look forward to continuing participation in remediation and modification of this important facility.

Yours truly,

Joseph L. Ehasz, P.E.

of & Eharz

Vice President, Water Resources & Hydroelectric

Washington Group, International

Encl.

Cc: A.W. Pietz G. Rockwell



PERRIS DAM RECONNAISSANCE STUDY

Prepared for

State of California

Department of Water Resources State Water Project Operations Support Office

Prepared by



June 30, 2006



Table of Contents

Executive Summary

- 1. Authorization
- 2. Background
- 3. Remediation and Modification Options
- 4. Issues
- 5. Screening Methodology
- 6. Discussion and Rating of Issues
- 7. Sensitivity Analysis
- 8. Conclusions and Recommendations
- 9. References
- 10. Acknowledgements
- 11. Appendices



List of Figures

- 2.1 State Water Project Map
- 2.2 Vicinity Map
- 2.3 Vicinity Photo
- 2.4 Project Map
- 2.5 Main Water Conveyances Picture
- 3.1 Area-Capacity Curves
- 3.2 Dam Cross Section As-Designed Dam
- 3.3 Arial View of Reservoir
- 3.4 Superimposed Arial Photo Reservoir at Elev. 1542 ft.
- 3.5 Superimposed Arial Photo Reservoir at Elev. 1563 ft.
- 3.6 Superimposed Arial Photo Reservoir at Elev. 1588 ft.
- 3.7 Superimposed Arial Photo Reservoir at Elev. 1640 ft.
- 3.8 Map Showing Northeast Dam Reservoir at Elev. 1640 ft.
- 3.9 Superimposed Arial Photo Reservoir at Elev. 1706 ft.
- 3.10 Map Showing Northeast Dam Reservoir at Elev. 1706 ft.
- 3.11 Superimposed Arial Photo Reservoir at Elev. 1752 ft.
- 3.12 Map Showing Northeast Dam Reservoir at Elev. 1752 ft.
- 3.13 Superimposed Arial Photo Reservoir at Elev. 1814 ft.
- 3.14 Map Showing Northeast Dam Reservoir at Elev. 1814 ft.
- 3.15 Dam Cross Section Reservoir at Elev. 1588 ft.
- 3.16 Dam Cross Section Reservoir at Elev. 1640 ft.
- 3.17 Dam Cross Section Reservoir at Elev. 1702 ft.
- 3.18 Dam Cross Section Reservoir at Elev. 1752 ft.
- 3.19 Dam Cross Section Reservoir at Elev. 1814 ft.
- 4.1 Recreation Activities
- 4.2 Riparian Areas
- 4.2 Residential Area Downstream of Dam



List of Tables

- 3.1 Data on Reservoir Options
- 3.2 Area and Volume Effects of Northeast Dam
- 6.1 Recreation Text Matrix
- 6.2 Recreation Rating Matrix
- 6.3 Environmental Text Matrix
- 6.4 Environmental Rating Matrix
- 6.5 Property Text and Rating Matrix
- 6.6 Operations Text Matrix
- 6.7 Operations Rating Matrix
- 6.8 Regional Socio-Economic Text Matrix
- 6.9 Regional Socio-Economic Rating Matrix
- 6.10 Water Quality Text and Rating Matrix
- 6.11 Seepage/Groundwater Text and Rating Matrix
- 6.12 Dam Risk and Safety Text Matrix
- 6.13 Dam Risk and Safety Rating Matrix
- 6.14 Permitting Text and Rating Matrix
- 6.15 Legal/Agreements Text and Rating Matrix
- 6.16 Construction Magnitude Text and Rating Matrix
- 6.17 Schedule Text and Rating Matrix
- 6.18 Water Storage Text and Rating Matrix
- 6.19 Summary Rating and Weighting Matrix
- 7.1 Recreation Issues Sensitivity
- 7.2 Environmental Issues Sensitivity
- 7.3 Construction Magnitude Issues Sensitivity
- 7.4 Water Storage Issues Sensitivity
- 7.5 Sensitivity Analysis Rankings



Abbreviations

A Acres

AF Acre-feet

AQMD Air Quality Management District

CNPS California Native Plant Society

CRA Colorado River Aqueduct

CVWD Coachella Valley Water District

DBW Department of Boating and Waterways

DC Devil Canyon

DFG Department of Fish and Game

DHS Department of Health Services

DPR Department of Parks and Recreation

DSOD Division of Safety of Dams

DVL Diamond Valley Lake

DWA Desert Water Agency

DWR Department of Water Resources

EIR/EIS Environmental Impact Report/Environmental Impact Statement

IF Inland Feeder

ITP Incidental Take Permit

LPSRA Lake Perris State Recreation Area

MWD Metropolitan Water District of Southern California

MSHCP Western Riverside County Multi-Species Habitat Conservation Plan

RCA Western Riverside County Regional Conservation Authority



SAVPL Santa Ana Valley Pipeline

SKR Stephens' Kangaroo Rat

SWC State Water Contractors

SWP State Water Project

SWPAO State Water Project Analysis Office

SWRCB State Water Resources Control Board

T&E Threatened and Endangered

USACOE U.S. Army Corps of Engineers

USFWS U.S. Fish and Wildlife Service

WGI Washington Group International